POWER LINE ENTANGLEMENT HAZARD TO RAPTORS

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The electrocution hazard to raptors perching on power line support structures is appropriately receiving increased attention. However, there is another associated hazard of importance which must be recognized and incorporated in efforts to resolve the raptor electrocution problem--the entanglement of the talons of raptors in the loose wrapped wires which hold the transmission line to the insulators. This report addresses this hazard and suggests some solutions.

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by Darrell Gretz

Biologists have recognized the raptor electrocution problem for many years. However, the raptor entanglement problem which has been around for as long as the electrocution problem, has generally gone unrecognized. The assumption of electrocution has disguised or prevented recognition of raptor entanglement.

An article entitled "Raptor Mortalities Power Lines Studied" by Vi Solt appeared in the August-September 1980 issue of Fish and Wildlife News. The accompanying photograph of an "electrocuted Golden Eagle" by Peter Carboni, recalled a discovery that District Supervisor Vic Keenan (retired) and I made in 1974. While investigating a reported Golden Eagle electrocution in SE Colorado, we found another hazard to raptors from power lines--entanglement on the line. Under magnification it can be seen in Mr. Carboni's photo (color photocopy #1) that a talon is caught between the loosely wrapped wire that holds the power line to the insulator. It can also be noted that the other talons are open and that the only thing holding the eagle to the line is his entangled talon.

Several things can happen as a result of this entanglement: 1) the bird is electrocuted when it contacts the other wire while flapping its wings trying to escape; 2) the bird breaks its leg and either escapes or is allowed to come in contact with the other wire and is electrocuted; or 3) the entrapped bird eventually dies suspended upside down. Electrocution is a merciful death in the later situation.

The following describes the color photocopies of the 35 mm slides Mr. Keenan and I took of this power line hazard to raptors. Photocopies #2 and #3 show Mr. Keenan holding a dead Ferruginous Hawk that had become tangled on the power line, broke its leg, contacted the lower wire, and was electrocuted. The electrical charge going through its broken leg burned through the flesh at the break, and the bird dropped to the base of the power pole. The bird had been dead approximately one day when we discovered it. Photocopies #4 and #5 show the hawk's foot still entangled in the upper wire near the insulator. Note that a talon is entangled in the wire wrap that holds the power line to the insulator.

Photocopy #6 shows the foot of a golden eagle that became entangled in a similar manner on the same power line a week earlier--and was electrocuted. The eagle, discovered by Mr. Keenan at the base of the power pole, was first thought to have been victim of an electrocution problem.

The fact that the hawk and eagle were found on the same power line and that both were obviously electrocuted, emphasizes two important points: 1) a hazard identified for a particular power line is a good indicator that the rest of the line may need to be corrected; and 2) raptors killed by electrocution may cover up the initial problem of entanglement.

The entanglement hazard could have been avoided if the wire which holds the line to the insulator was more carefully wound during the construction of the power line. This would have eliminated the chances of a talon becoming entangled.

Existing entanglement problems could be corrected by: 1) tightly rewrapping the wire that holds the power line to the insulator; or 2) installing a cover (split plastic tube) over the wire wrapping on each side of the insulator. Exhibit No. 3 in the report "Suggested Practices For Raptor Protection on Powerlines" distributed by the Raptor Research Foundation, Inc., for Edison Electric Institute, shows a method for covering the conductor and insulator.

The power line entanglement problem needs further exploration to: 1) determine the severity of the situation; 2) document those power lines that present a hazard; and 3) work with the utility companies to correct the problem. It is another significant mortality factor which must be recognized and properly addressed to ensure healthy populations of eagles for the future.

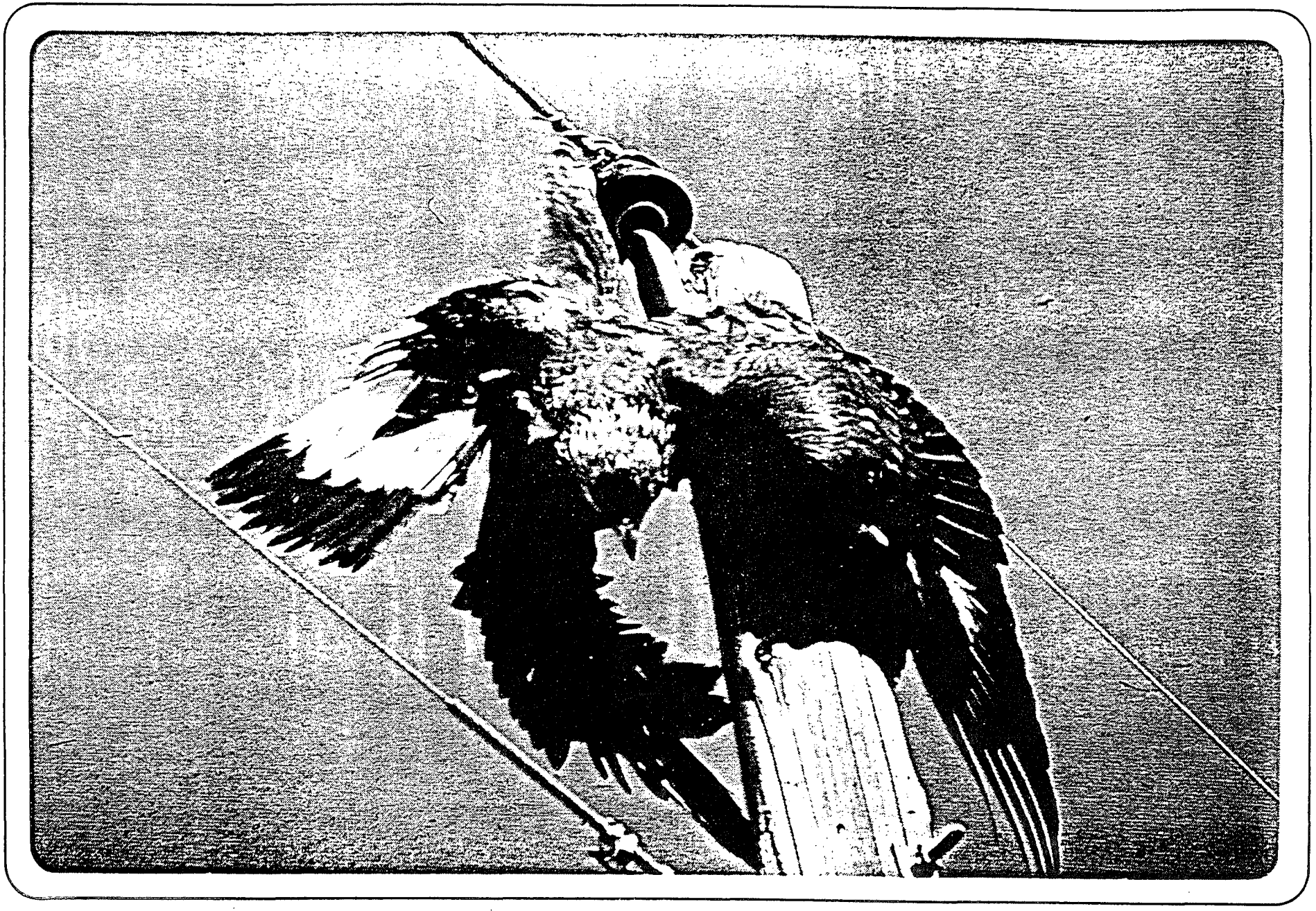

Photo by Peter Carboni, USFWS

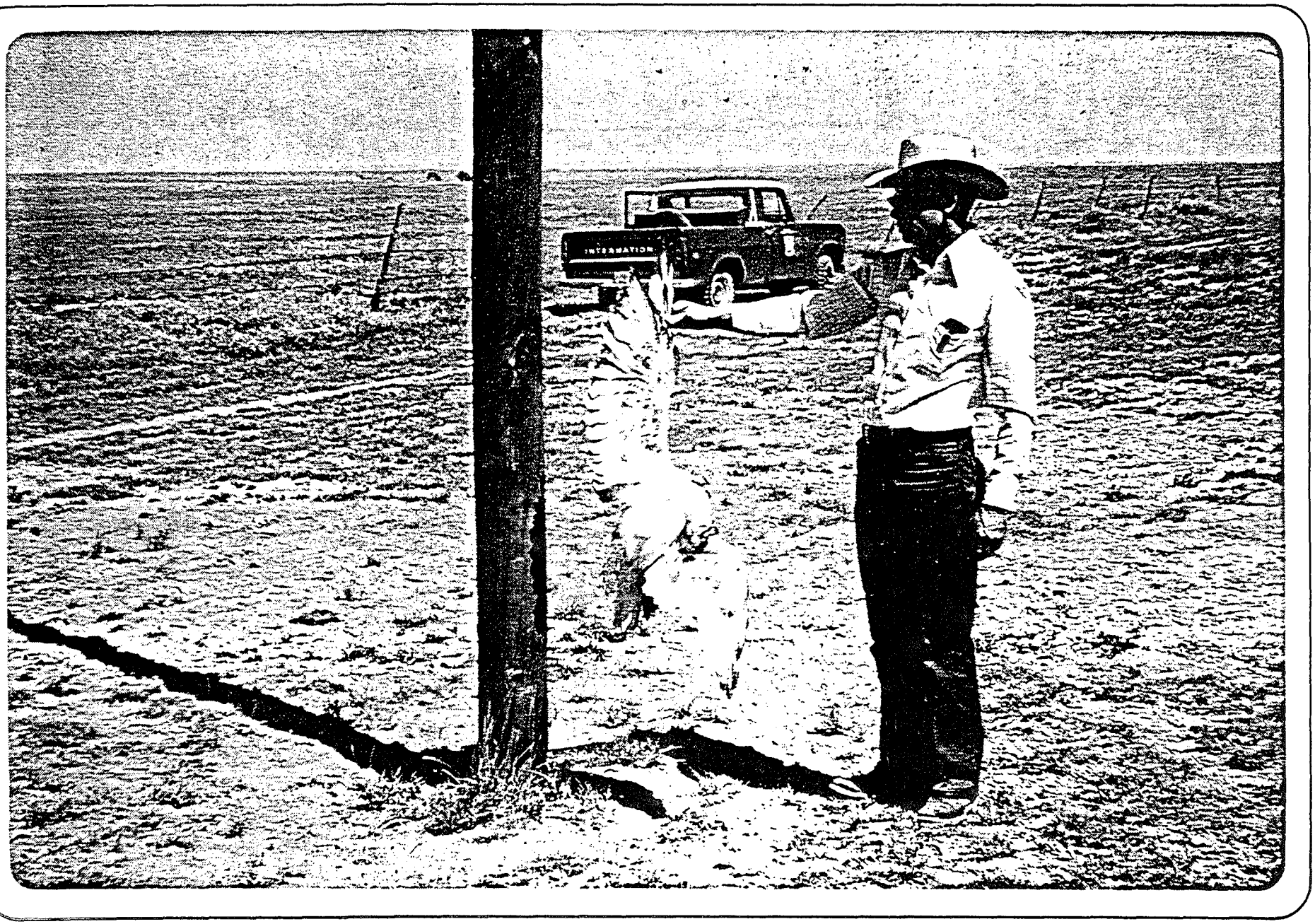

Photo by Darrell Gretz, USFWS

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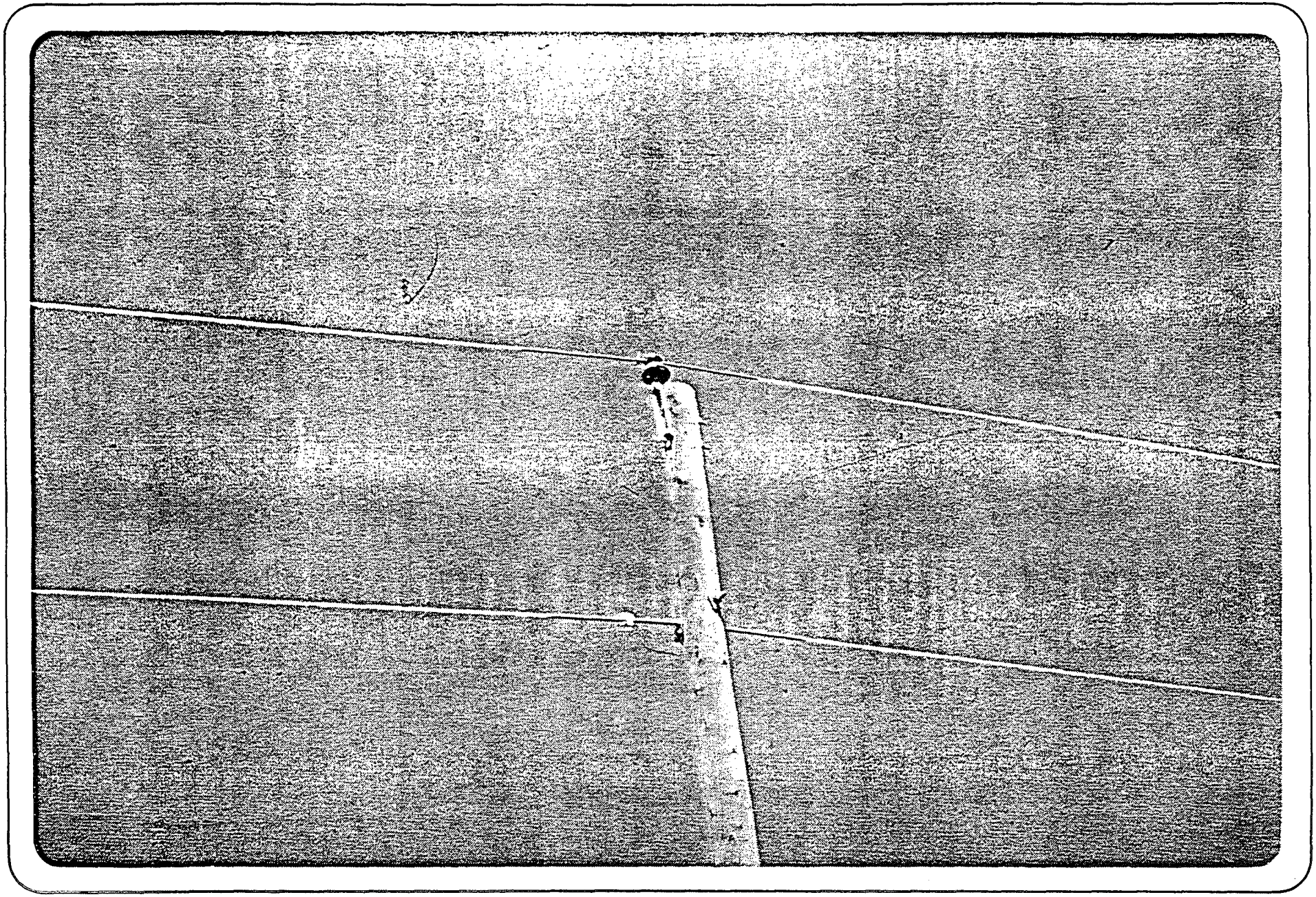

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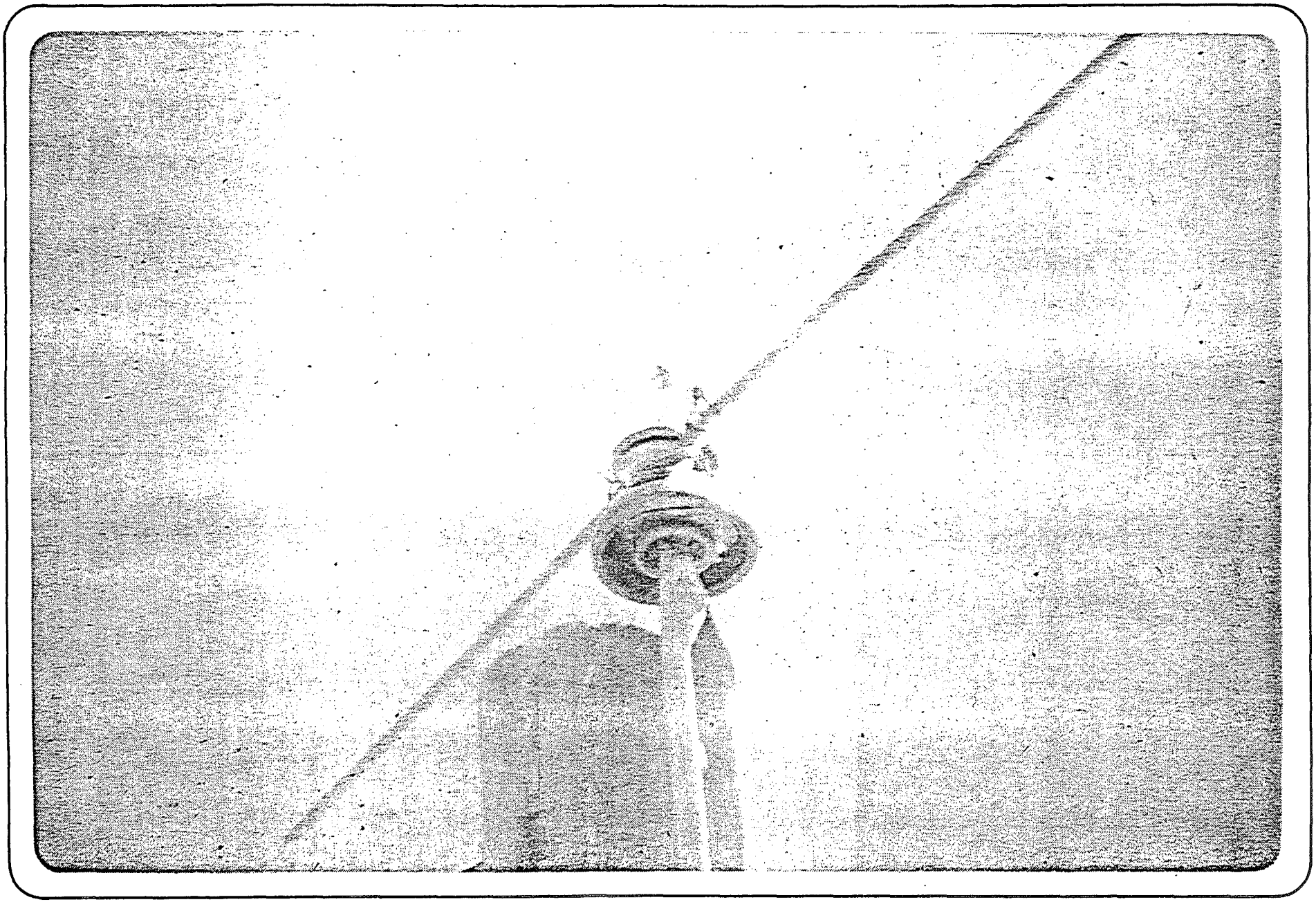

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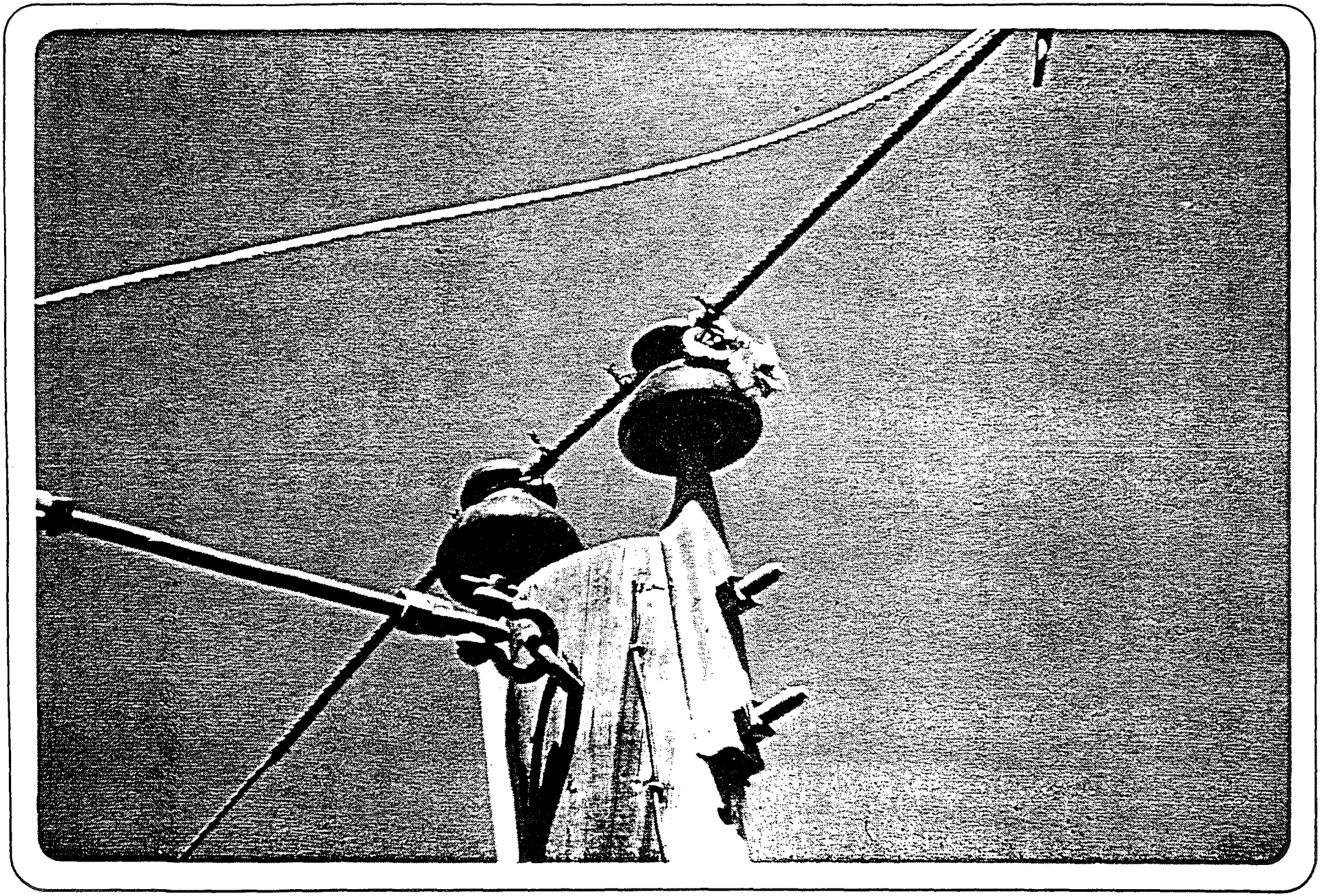

Photo by Darrell Gretz, USFWS